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UNDERWRITERS' LIABILITY.

An important case was tried in the Court of Appeals for the 6th Circuit at Chicago last week, the decisions of which will be of interest to vessel owners, insurers and lawyers.

On the 6th of May, 1894, the schooner American Union, bound light, was stranded at Thomson's Harbor, Lake Huron.

The master immediately procured the assistance of Gilchrist & Fletcher's wrecking appliances from Alpena, and work was continued until the 19th, when the vessel became a total wreck with the exception of her anchors and a few sails and tackle. This was taken to Alpena and subsequently turned over to the wreckers, as the owner of the vessel had abandoned to his underwriters. Gilchrist & Fletcher filed their libel against the insurance companies, claiming some $3,000 for their services.

The insurance companies plead the act of Congress of June 26, 1884, under which they claimed that their liability was limited to the value of the vessel, which in this case amounted to the wreckage which was saved and which the libelants had recovered, and that in no event were they liable for more than two-thirds of the claim, that being the amount they had insured on the value of the vessel.

The District Court held that the act of 1884 did not apply, but held the companies for but two-thirds of libelants, claim. The libelants thereupon appealed, but the insurance companies did not.

The libelants contend that the companies not having appealed could not be heard in the Court of Appeals.

The insurance companies claim that in admiralty cases there is upon appeal or trial *de nova* and that they had a right to and did urge the act of 1884 as a complete defense.

Which ever way the case is decided it will probably go to the Supreme Court for a final decision. Col. Robt. Rae represented the libelants and C. E. Kremer Esq., represented the insurance companies.

NEW YORK–JAPAN STEAMSHIP LINE.

Consul Skinner, of Marseilles, says, under date of April 2, 1898:

The Indrapura is about to leave this port for New York, to take her place in a fleet of new boats just being built for the purpose of plying between the ports of Japan and New York. Until now the traffic between the United States and Japan has been in the control of unattached vessels sailing at irregular intervals, and I am informed that the pioneer effort to maintain a regular service is about to be undertaken by the organizers of the Indra Line, the title word signifying "Kings of India." The fleet will fly the British flag and will include the following ships, each with an average carrying capacity of 3,150 tons: Indravelli, Indralema, Indrani, Indra and Indrapura. The increasing commerce between New York and Japan is responsible for the organization of the Indra Line, the New York agents of which are Funch, Eyde & Co. Monthly sailings wiil be undertaken, and the boats will touch at Marseilles when not completely loaded for either New York or Japan. The Indrapura will make the lines maiden trip, and will be freighted with Baldwin locomotives and miscellaneous manufactures.

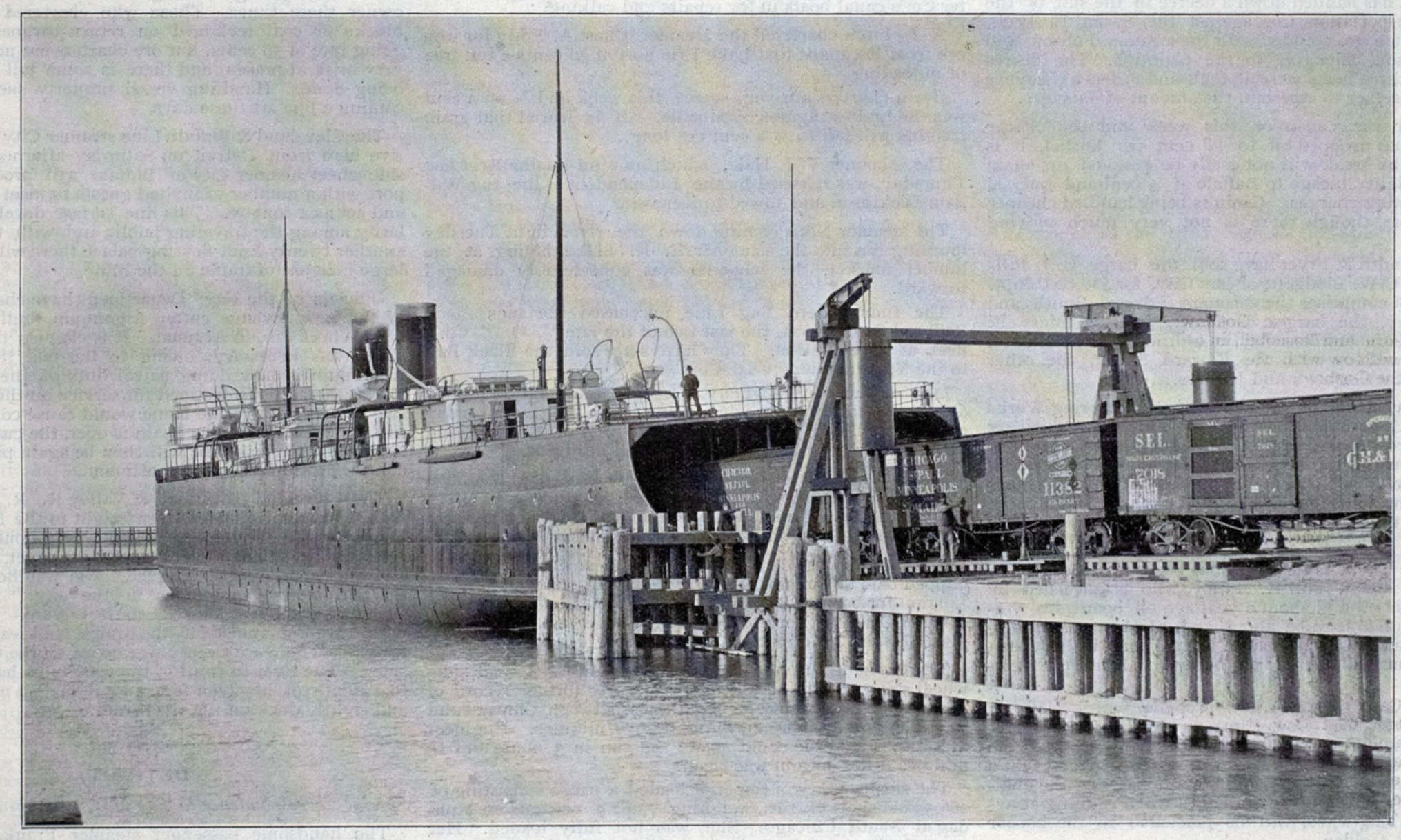
AN AMERICAN ENGINEER IN CHINA.

Consul-General Goodnow writes from Shanghai, March 26, 1898:

Capt. Watson W. Rich, late chief engineer of the Sault Ste. Marie Railway, has been appointed consulting engineer to the Chinese Railway Administration, with headquarters at Shanghai. Captain Rich will be in charge of all railway building in China, under the immediate direction of Sheng Tajen, Director-General of railways.

JAPANESE SHIPBUILDING.

Much has been said about the construction of the Hitachi Maru, a steamer of 6,150 gross ton, and 3,500 i. h. p., at Nagasaki, the Japanese have not so very much to be proud of. The plates were all imported from Europe, so that the work done was limited to putting it together. The expert entrusted with passing her for Lloyd's, it is alleged, found great fault with the manner in which the rivets had been driven, and condemned 113,000 of them. Even after the rivets had been redriven the examining officer was dissatisfied with the vessel. Ultimately a special messenger from Lloyd's had to settle the matter. The builders are stated to have lost £17,000 on the transaction.



Railroad Car Ferry Pere Marquette.

Owned by the Flint & Pere Marquette Railroad Co. Built at the yards of F. W. Wheeler & Co., West Bay City, Mich. This steamer went into service between Ludington, Mich., and Manitowoc, Wis., February 14th, 1897. She is a twin-screw steel steamer, 350 feet long, 56 feet beam and 20 feet molded depth, designed and built especially for a railroad car ferry, with limited accomodation for passengers.

(From engraving used in Beeson's Marine Directory, 1898 issue, just from press. Copyrighted.)

THE citizens of Lorain showed by their votes at a special election this week, on issuing $75,000 worth of bonds for harbor improvements, that they favored the outlay five to one. The vote for the issue stood 592, against it 103. The expenditure will go towards widening the channel to the steel plant to allow the largest carriers to reach the plant.

NEWS AROUND THE LAKES.

BUFFALO.

Special Correspondence to The Marine Record.

Capt. James T. Fountaine has been appointed master of the excursion steamer Puritan.

The light-house tender Haze docked in the Mills dry dock for thorough bottom overhauling.

Edward W. Maytham has purchased the small tug J. P. Toby, from her former owner at Toledo for the sum of $1,200,

Four cargos of lumber amounting to 1,500,000 feet entered here on Tuesday. This is not much but it is the largest consignment of lumber so far this season.

It is reported that the Richmond elevator, a house that has been idle a long time, will be operated again. The Richmond is oppposite the foot of Main street.

A. E. Huff has been appointed master of the steamer William H. Stevens, vice Capt. John H. Malloy, who is incapacitated by an injury sustained last season.

The steamer Riverside started this week on her daily trip to Niagara Falls. Capt. James Lanagan is the master of the Riverside and he is a good, capable, all-around man, well liked by all who travel with him.

Lack of business has caused the Western Transit Co., to lay up the steamers Arabia, Montana, Vanderbilt and Chicago, the Anchor Line the Conestoga, Conemaugh, Gordon Campbell, Wissahickon and Delaware, The Union Transit Co., the Eber Ward and Portage.

The National Standard Insurance Co. of New York, which was organized last season by Standard Oil magnates, it is said, and constituted one of the McCurdy syndicate companies, has retired from lake underwriting. The Chicago Insurance Co. has also retired from lake hull business.

Judge Swan has handed down a decree in the suit of the Mitchell Transportation Co. against the Susan E. Peck, which some time ago collided with the steamer Folsom and the barge Nelson, belonging to the plaintiffs. The decree finds that all three boats were at fault and orders a reference to the commissioner to ascertain the amount of damages.

The elevator war is again on this week and the charge for elevating has dropped off to ⅛ cent per bushel, it is thought that the break will not easily be patched up again with lake freight Chicago to Buffalo at ⅞ cent and only ⅛ cent for elevating charges. Grain is being handled cheaper than ever before, though there is not very much moving just now.

Gratwick, Smith & Fryer have sold the barge C. J. Fillmore to Capt. C.W. Blodgett, of Bay City, for $10,000. Capt. Blodgett's fleet comprises the steamers Edward Smith and C. H. Bradley, the barges Goshawk, Jenness, Mary E. Woolsen, Brightie and Boscobel, in addition to the Fillmore. The Fillmore will tow with the Edward Smith, the other barges being the Goshawk and Jenness.

The announcement that the Lake Erie Engineering Works will receive a Government contract to build gun carriages must be a source of gratification to Buffalonians. The president of this institution, Mr. Richard Hammond, is one of the most progressive business men in the city and his efforts to develop new fields for the sale of Buffalo manufactures are worthy of the highest commendation.

A. E. Huff, formerly mate of the steamer William H. Stevens of the Union Transit Co., has been appointed master of that vessel. Capt. John H. Malloy, who is suceeded by Capt. Huff, was injured about a year ago on board his vessel and although able to be about and perform his duties, has been growing worse instead of better, and it has been found that a surgical operation is necessary, hence the transfer.

The test of Capt. Golden's new propeller wheel, made on the police patrol boat Gov. Morton, this week, was pronounced a complete success. Capt. Pritchard says that the wheel will do all that is claimed for it, increasing the yacht's speed both ahead and when backing, and enabling the engineer to stop her within her own length when running at average speed. The wheel will be presented to the harbor police by Capt. Golden.

In regard to the transportation of grain from Buffalo to New York by the railroads it is reported that five of the leading roads have reached an agreement whereby all their grain at and east of Buffalo shall be divided, the roads in question and their respective percentages being reported as follows: New York Central, 40 per cent.; Erie railroad, 25 per cent.; Lehigh Valley, 16 per cent.; West Shore, 15 per cent.; Delaware, Lackawanna & Western, 4 per cent.

Major Stanton, Corps of Engineers, U. S. A., in charge of the river and harbor work at Oswego has been detailed for duty at Boston, to assume charge of the First and Second Light-House Districts, and his lake work will be taken over by Major J. W. Symons, Corps of Engineers, U. S. A., stationed here. This change will load Major Symons down to the scuppers with the many calls on him for engineer as well as the light-house work of a large district and the great improvements being caried on at this harbor.

Daniel H. Wilcox, of the firm of Smith & Wilcox, marine adjusters, returned from the wreck of the steamer Idaho on Tuesday, transacted some business which required his personal attention, and went back to Long Point again. It is understood that all arrangements for raising the cargo of the sunken steamer have been made. The sea has been heavy at the point where the Idaho lies, and no active operations of the lifting machinery have been possible as yet, everything accomplished during the past few days being of a preliminary nature.

The surveyors on the wreck of the steamer J. H. Outhwaite and her consort the schooner Barr, which was ashore at False Presque Isle, have not made a joint report, although it has been reported that the steamer was not a constructive total loss. Capt. Dan McLeod, who represented the owners on the survey, was ready to present figures, but Capt. Herriman, the underwriters' representative, was not. According to Capt. McLeod's estimates the Outhwaite is a constructive total loss and the owners feel satisfied that the wreck is the property of the underwriters. The steamer has been taken to Capt. James Davidson's shipyard at Bay City for repairs. The schooner will be repaired at the Springwell's yard of the Detroit Dry Dock Co.

There is no use saying anything to the contrary, the marine business is dull and in every line at that. Whether the Leiter wheat deal had much to do with it or not, the bottom has dropped out of grain freights, and although that wily speculator has gone by the board, there can not now be much improvement until the new crop comes into the market and begins to move. The Erie canal trade is helping local traffic some, but with coal freights down to 20 cents and little chartering at even that figure the lake end of the business is flat. The western farmers, or those who handle their products, never had cheaper rates of transportation than at present as one cent a bushel from elevator to elevator, or all charges from Lake Michigan to Buffalo elevators is now covered at a cent, the elevators here only charging ⅛ cent per bushel instead of ⅞ as formerly.

CHICAGO.

Special Correspondence to The Marine Record.

The small floating dry dock had two of the Hogan Transfer Co.'s canal boats in for repairs and calking.

A. L. Fitch chartered the steamer Chas. A. Eddy for iron ore from Escanaba to a Lake Erie port at 40 cents a ton free of unloading.

Grain charters are very scarce this week and ⅞ of a cent was the highest figures obtainable. It is feared that grain freights will fall to ½ a cent ere long.

The schooner V. J. Hale, which ran on Racine Reef last Thursday, was released by the Independent Line tug William Dickinson and towed to Kenosha.

The steamer Niko coming down the river light Tuesday morning ran into the schooner E. R. Blake laying at the lumber market, the schooner was considerably damaged forward.

The Independent Tug Line purchased the tugs Black Ball and Satisfaction, the last two of the late V. O. T. Co.'s fleet, as a speculation. They have since sold the Black Ball to the Youghiogheny Coal Co.

One of the Youghiogheny & Lehigh fuel-handling scow derricks in tow of a tug when going down the river Monday morning collided with the schooner City of Chicago and carried away her jibboom, bowsprit and headgear.

The main steam pipe on the engine of the tug Tomlison burst Saturday night. Hugh Harmon, engineer of the tug, had his hands and feet badly scalded. He was taken to a private hospital in South Chicago, where he is doing well.

J. J. Rardon & Co. chartered the steamer Mecosta for clipped oats to Buffalo ⅞ of a cent, the steamer City of London for corn to Buffalo at ⅞ of a cent, the Canadian steamer Orion for corn to Kingston at 1¾ cents, the schooner Maria Martin for clipped oats to Sarina at 1 cent.

The Graham and Morton Transportation Co.'s steel sidewheel steamer City of Chicago broke her former record of three hours and twenty-eight minutes between Chicago and St. Joseph on Monday morning by two minutes. Engineer McClure thinks she could make the run in 3 hours and 15 minutes if her bottom was clean.

The steamer City of Superior loaded a cargo consisting of 266,550 bushels of corn, weighing 7,462.9 net tons on Monday at South Chicago. She was not fully loaded. Her mean draft was 18 feet 2 inches. This is by far the largest cargo ever loaded on the Great Lakes. The largest former grain cargo was taken by the steamer Wm. R. Linn and was 232,000 bushels of corn.

The Racine Boat Manufacturing Co., of Racine Wis., who were the lowest bidders on the contract for the new steel fire boat for the city of Chicago, have been allowed to withdraw their bid on account of special clause in contract, and the time limit. The work the firm has on hand and in prospect, precludes them binding themselves to a time limit, and the fire boat must be ready at an early date. The contract will probably go to the next lowest bidder.

A model submarine boat 15 ft. long and 4 ft. deep, constructed of outer and inner shells of aluminum with oak between, was tested on Lake Calumet near Chicago on the 5th inst. The boat is propelled by electricity and was invented by C. T. Dunlop of Cleveland. The submarine Argonant was recently run over a 200-mile course between Baltimore and Norfolk, Va., by her own power. Various experiments were made along the whole trip demonstrating that the boat could be easily maneuvered either above or beneath the water.

CLEVELAND.

Special Correspondence to The Marine Record.

Several tugs have been overhauled at the Ship Owners' dry dock this week and repairs done on the steamer J. C. Gilchrist. The steamer Siberia is still in the small dock.

The Cleveland Ship Building Co. are making the repairs on large steel steamer Senator at their Lorain shipyard. Forty plates were damaged through grounding in Detroit river.

The steamer Badger State, the second of the Northern Transit Co.'s steamers which will be operated between Toledo, Cleveland and Ogdensburg this season, left for Toledo Wednesday night.

The announcement that the work on the new channel at Vidal Shoals, above the "Soo" canal, has so far advanced as to allow the use of the channel, is a fact that will interest every vessel passing through the Sault Ste. Marie river.

The barge Helvetia reached Lorain on Tuesday with her headgear carried away and butts started. She was in tow of the Henry J. Johnson, and when leaving the dock at Marine City was struck by the Yakima. She may be dry docked and repaired by the Cleveland Ship Building Co.

The steamer Minneapolis has been in the Cleveland dry dock since Saturday last. Nine bottom plates have been replaced. The whaleback barge 117 goes into the dry dock next for survey and will be followed by the H. J. Johnson for survey and repairs to damage through collision with the Fulton this week on Lake Huron.

J. C. Gilchrist has become the owner of the Quito. Ex-Congressman W. J. White, owner of the fast yacht Say When, spent a good deal of money on the Quito when he changed her name from the D. Ballentine, and as large steel tonnage began to be built the older class of vessels could not compete in the freight market and she had not been fitted out this season.

Carrying coal to the head of Lake Superior at 20 cents per ton with nothing to bring back is scorching the vessel owner these times. Those who chartered to carry large blocks of coal reckoned on return cargoes of ore at the going rate of 50 cents, but ore charters are not flying around very brisk at present and there is some tall old grumbling being done. Handling vessel property successfully is becoming a fine art these days.

The Cleveland & Buffalo Line steamer City of Erie will arrive here from Detroit on Saturday afternoon. The large side-wheel steamer City of Buffalo will proceed from this port with a number of invited guests to meet the new boat and act as a convoy. This line is fast developing a popularity among the traveling public and with the addition of another twenty-knot floating palace there will no doubt be a large increase of traffic on the route.

Officials of the Navy Department have changed the name of the new revenue cutter Algonquin, built by the Globe Iron Works Co., to Acamac. It is claimed that a change of name was necessary, owing to the fact that the tugboat Algonquin is now doing patrol duty on the Atlantic coast, and as the cutter is destined for service on the Eastern coast, two vessels of the same name would cause confusion. After the present trouble with Spain is over, the cutter will resume her former name, as she will then be again placed under the control of the Treasury Department.

The Cleveland Terminal & Valley R. R. Co., has commenced to receive and deliver freight to the boat lines at its new west side warehouse. The new warehouse fronts on the river and is situated on West River street, between Main and the Superior street viaduct. The warehouse is the largest and most commodious in the city. The new steel structure is 500 feet long by 50 feet wide. It is equipped with traveling cranes for the quick and easy handling of freight. There are twenty-five doors on the dock and street sides. The river in front of the warehouse has been dredged to a depth of nineteen feet, and it is the most convenient and sightly dock on the river front.

DETROIT.

Special Correspondence to The Marine Record.

The handsome passenger steamer Frank E. Kirby will commence running on her summer schedule this week. The round trip from here to Sandusky and the islands will be made daily.

The new steel passenger steamer City of Erie, built at Wyandotte by the Detroit Dry Dock Co., to the order of the Cleveland and Buffalo Transit Co., was given a trial trip here on Saturday and bowled along at the rate of twenty miles an hour. The Erie is the latest and best built sidewheeler on the lakes and her cost is placed at $400,000.

The Detroit News says: "Andy Travis, sport and pugilist, is negotiating for the old steamer John A. Dix. The engine and boiler of the steamer have been removed by the Detroit Dry Dock Co. for use in a new boat, and the dismantled hull will be disposed of to anybody making a good offer. It is reported that Mr. Travis, if he obtains possession of the steamer, will anchor her out in the stream at some convenient point and transform her into a first-class resort, where cocking mains and glove contests can be pulled off without interference by over-zealous officers." This ought surely to be the last of the favorite old excursion boat, only it is quite certain that Andy Travis won't get her or use the old hull for any such a purpose.

The wooden steamer A. G. Lindsay dry docked this week to repair the injuries received at Collingwood. The propeller and shaft are broken and her shoe gone. Capt. C. H. Woodford says it will take a week to make repairs. "We're carrying ore now," added the captain, "and there's plenty to carry, but there isn't any money in it for the smaller boats because we can't compete with the monster ore vessels, one of which will take the place of half a dozen of the ships that carried ore ten years ago." The Lindsay was built by the Detroit Dry Dock Co. and is a well constructed, economical running boat, but the carrying capacity of the big floating steel warehouses put afloat the last few seasons is against such boats as the Lindsay earning anything except in a special trade.

TRAFFIC THROUGH THE ST. MARY'S FALLS CANAL.

The office of the United States Engineer Corps at Sault Ste. Marie, Mich., keeps an accurate and fully trustworthy record of the traffic passing through that gateway to and from Lake Superior, and the annual statement of commerce as compiled by the engineer officers is the most reliable figures in connection with lake work. The statistics have been carried forward since 1855, and are very inclusive. We published last week the freight rates for water transportation to and from Lake Superior; also the result obtained from a discussion of the traffic statistics from 1887 to 1897, which, with the following table, will show the relative increase of the valuation in canal traffic:

ESTIMATED VALUE OF FREIGHT, BY ITEMS, THROUGH ST. MARY'S FALLS CANAL, MICHIGAN.

ITEMS.	1887.	1888.	1889.	1890.	1891.	1892.	1893.	1894.	1895.	1896.	1897.
Coal (Hard and Soft)	$ 4,735,454	$ 7,367,644	$ 5,702,190	$ 7,619,238	$ 8,776,362	$10,164,931	$10,528,420	$ 8,191,917	$ 6,993,351	$ 8,452,072.50	$ 9,456,824
Flour	7,863,675	10,953,625	11,143,535	16,195,520	18,900,715	21,672,540	29,682,696	33,621,649	33,383,632	34,199,003.30	40,145,144
Wheat	22,634,590	18,224,424	15,907,217	15,893,022	38,040,239	30,746,085	32,611,239	22,316,469	30,041,863	47,442,347.25	48,654,143
Grain (other than wheat)	759,653	1,981,862	2,090,580	2,003,496	1,011,462	933,346	1,346,993	772,504	4,164,347	10,704,747.69	11,449,256
Manufactured Iron	3,035,750	2,442,950	1,577,250	4,680,750	2,128,000	2,988,600	2,852,300	1,805,350	3,683,150	4,696,200.00	6,092,400
Pig Iron	241,468	252,348	442,272	386,104	462,077	709,716	550,902	331,452	346,788	377,298.00	176,437
Salt	204,908	210,433	168,250	179,431	234,528	275.740	228,730	237,461	202,439	178,136.25	214,086
Copper	6,977,200	5,792,000	6,691,200	8,745,800	13,838,000	12,998,600	17,506,000	19,914,600	21,490,400	23,374,400.00	24,464,800
Iron Ore	8,741,995	8,996,808	14,335,492	16,711,688	12,460,744	17,153,962	14,050,946	17,027,078	22,332,319	25,705,062.50	31,901,145
Lumber	2,974,068	4,326,696	5,679,972	6,514,722	6,593,490	9,231,192	10,593,810	11,564,608	8,888,400	8,562,325.00	10,875.762
Silver Ore and Bullion	53,826	520,579	914,589	527,807	266,211	296,815	379,861	46,144	11,200	26,880.00	560
Building Stone	134,010	335,410	335,380	479,730	440,800	396,980	194,260	214,170	238,760	177,310.00	62,490
Unclassed Freight	20,675,160	20,751,240	18,744,600	22,277,640	25,025,580	27,548,760	24,910,800	27,071,100	27,798,480	31,251,060.00	34,742,880
Total	$79,031,757	$82,156,019	$83,732,527	$102,214,948	$128,178,208	$135.117,267	$145,436,957	$143,114,502	$159,575,129	$195,146,842.49	$218,235,927

FLOTSAM, JETSAM AND LAGAN.

The First Mate—How clear and bright it is in the west.

The Second Mate—Why not? The captain has been sweeping the horizon with his glass.—Indianapolis Journal.

A windstorm at Ogdensburg on Sunday night, did immense damage along the docks. The O. T. Company's elevator was unroofed and its contents almost entirely destroyed.

Work will be renewed at the Wheeler yard at Bay City, the Bessemer Steamship Co. having agreed to pay the wages due the men. When the boats now on the stocks are finished the yard will probably be closed down for an indefinite period.

All the steamers of the D. & C. Line are now in commission. The steamers of the Lake Huron division will make four trips a week between Toledo, Detroit, Alpena and Mackinac. Double daily service between Cleveland and Detroit will commence June 27.

On a passenger steamboat plying on the river Suir, in Ireland, is the following notice: "The chairs in the cabin are for the ladies. Gentlemen are requested not to make use of them till the ladies are seated." On a Coney Island boat they reverse the process.—New York Sun.

West Bay City levied upon two of the hoisting machines at Wheeler & Co's. yards for personal taxes, but has concluded to release the proceedings temporarily, as work is to be resumed on the Bessemer boats. When this is completed the city will again take hold of the machines and offer them for sale unless the taxes are paid.

The launching of the new steamer Alexander McDougall at the West Superior shipyard will take place on Saturday, June 18. The date was fixed with the knowledge that the copper country people will be there on an excursion. Many of them have never witnessed a launching and it will be quite a treat for them.

It is estimated that lumber sales for shipment from the head of the lakes during the past two weeks have amounted to 20,000,000 feet. An unusual number of charters this year are being made at lower-lake ports, which is attributed to the efforts of the vessel owners' association to maintain a fixed scale of rates. Agents deny that the schedule of vessel owners is being tampered with.

A determined effort is being made by the forwarding interests of Toronto, Kingston and Montreal, to secure an opening of the Canadian canals on Sunday. A large party representing the shipping interests of these cities waited upon the authorities on Saturday, and strongly urged rescinding the order closing the government waterways on the seventh day. A partially favorable answer was returned to the application.

The Burke Transit Company, which is running a daily route between Waukegan, Kenosha, and Chicago, has arranged for rail connections from Kenosha into Milwaukee, with rates just half the present rail rates. At Kenosha the boats connect with the Milwaukee, Racine & Kenosha Electric Railway, and in Milwaukee transfer slips will be given to any street car line in the city limits. The line will be known as the Lake Shore route, and will be rather slow as regards time.

George Barnard, one of the firemen injured on the steamer Crescent City by the bursting of a steam pipe off Sandusky, died Tuesday morning in the Marine Hospital after lingering several hours in agony. He begged his attendants to kill him and put him out of his suffering. Powerful opiates were administered to him until unconsciousness came as a relief to his excruciating pains, and while in that condition he passed away. The other men who were scalded, Wm. Troy, of St. Clair and Richard Pritchard, of Chicago, are in the Marine Hospital at Sandusky, where they were taken after the explosion, and will recover.

Owners of vessels that are not rated A 1 are having more trouble than hustling for cargoes. A Cleveland manager is quoted as having said that the underwriters, who have picked up nearly all of the first-class business, apparently do not want to take risks on vessels that are not top notchers. The policy offered us in same cases, he said, is practically useless from a vesselman's standpoint. Different clauses in the policy, he said, state that no insurance will be paid in case the boiler of a steamer explodes or if the steamer collides with a dock. In case of incompetency of the master or rottenness or other defects in the vessel no insurance will be paid, according to the policy. "It is hard enough to get a settlement with some of the underwriters now," he said, "but no matter how a vessel was lost or damaged, under the new plan it would be almost impossible to collect insurance. Incompetency of a master or defects in a vessel seem to be pretty lame excuses." The underwriters, as everyone knows, never insure a vessel before she is thoroughly examined, and if the government examinations which the masters of steamers have to pass are no protection to the underwriters, owners of vessels and crews, a change ought to be made. It is reported that some losses for last season have not been settled yet.

At Chicago there promises to be a passenger steamer rate war between the Graham & Morton Line and the sidewheel steamer State of Ohio, late of the Cleveland & Buffalo Line, chartered to enter the new O'Connor Line between Chicago and St. Joseph. It is believed that the coming of the steamer will result in the sharpest passenger rate war ever waged in Chicago. Agreements have been made to maintain rates, but they are not likely to last long after the season is fairly under way. For the present the State of Ohio will make but one trip daily across the lake, but after the excursion season fully opens she is scheduled for two trips every twenty-four hours. This will give her 260 miles and four loads to care for. As against this, the Graham & Morton Line will have three steamers out of Chicago every twenty-four hours.

TREASURY DECISIONS.

REGISTRY OF VESSELS.

Vessels of United States transferred to aliens may become liable to disabilities.

TREASURY DEPARTMENT, June 3, 1898.

SIRS: Replying to your letter of the 2d instant, in which you state, "Being the owner of several American ships, we would like to know, if, during the present trouble with Spain, we should put our vessels under the English register, could we on the return of peace have our American register given to the vessels again," I have to say that section 4165, Revised Statutes, as amended by section 10 of the act of March 3, 1897, reads:

A vessel registered pursuant to law, which by sale has become the property of a foreigner, shall be entitled to a new register upon afterwards becoming American property, unless it has been enlarged or undergone change in build outside of the United States.

The act was plainly designed to retain to American vessels the privilege in time of peace of returning to the flag after having been temporarily employed under a foreign flag.

You are aware that the conditions created by a state of war are widely different from the ordinary conditions of peace in many commercial transactions. While Secretary of State, the late William M. Evarts held:

It is notorious that a maritime war scarcely ever occurs when at least one of the belligerents does not seek to protect more or less of its shipping by a neutral flag. In some instances this may honestly be done, but sales of vessels of belligerents to neutrals in apprehension of war, or when hostilities may have actually broken out, are always more or less liable to suspicion, and such transactions justify the strictest inquiry on the part of the belligerent, who thereby may have been defrauded of his right to capture enemy's property.

Substantially the same rule is laid down by Halleck, as follows:

The sale of an enemy's vessel to a neutral purchaser, to be valid, must in all cases be absolute and unconditional. The title and interest of the vendor must be completely and absolutely divested. If there is any covenant, condition, agreement, or even tacit understanding by which he retains any portion of his interest, the entire contract is vitiated, and in international law regarded as void. Thus if the vendee is bound by a condition to restore the vessel at the conclusion of the war, or if the vendor retains a lien on the vessel for a whole or a part ot the purchase money, the transfer is held to be colorable and void. Even when the sale is ostensibly absolute, if the vessel continues under the control and management of her former owner and in the same trade and navigation in which she was previously employed, these circumstances are deemed conclusive evidence of a fraudulent intent to cover under the name of a neutral the property of an enemy, and the contract is necessarily adjudged to be invalid. * * * So, also, if the neutral vendee, although residing himself in a neutral country, continues to employ the vessel constantly in the trade of the country to which she belonged.

You will observe that the protection of a neutral flag is conditioned on the bona fides of the sale to a neutral, and your letter seems to indicate that the sale of your vessels is to be conditional on a resale to you at the close of the war.

Again quoting Secretary Evarts:

Shipowners of this country, also, probably found a neutral flag a convenient cover for their property during our last war with Great Britain, and especially during the war of the rebellion of this country. It is understood, however, that when these hostilities were brought to a close Congress rejected the application of parties who asked to have those of their vessels renationalized which had been transferred under the circumstances referred to.

According to its practice, the Department must decline to make a ruling on the question you ask until a specific case requiring its action is submitted. These considerations, however, and the propriety of abandoning the flag at this time and resorting to the protection of an alien nation, the possibility that the right of that protection will be denied by Spanish vessels, or refused by the nation to which you may apply, and the extent of danger of capture, real or imaginary, are brought to your attention as matters which may govern your action.

Respectfully yours,

O. L. SPAULDING, Assistant Secretary.

MESSRS. DE GROOT & PECK, New York, N. Y.

POSITIONS IN THE LIGHT-HOUSE SERVICE.

LIGHT-HOUSE ESTABLISHMENT,
OFFICE OF THE LIGHT-HOUSE INSPECTOR, NINTH DIST.,
CHICAGO, ILL., June 13, 1898.

Notice is hereby given that several vacancies exist in the positions under the Light-House Board in this district, which includes Lake Michigan, Green Bay and tributary waters lying west of a line drawn across the Straits of Mackinac, at Mackinac Point, Michigan. Among the positions to be filled is: one light-house keeper and fifteen assistant light-house keepers. Persons who wish to apply for either of the foregoing positions should obtain a copy of the proper form of application from this office, either by person or by mail, and after filling out return to this office. Those who have already filed application need not do so again. Applicants need not appear in person. Thirty days from the date of this notice all applications received will be examined, the applicants graded according to merit, and a list of those eligible for appointment sent to the Light-House Board.

C. O. ALLIBONE,
Lieut. Commander, U. S. N.,
Light-House Inspector.
Chairman Local Civil Service Board.

WEATHER FORECASTING.

About one hundred years after the invention of the barometer, viz., in 1747, Benjamin Franklin, patriot, statesman, diplomat and scientist, divined that certain storms had a rotary motion and that they progressed in a northeasterly direction. It was prophetic that these ideas should have come to him long before any one had ever seen charts showing observations simultaneously taken at many stations. But, although his ideas in this respect were more important than his act of drawing the lightning from the clouds and identifying it with the electricity of the laboratory, yet his contemporaries thought little of his philosophy of storms; and it was soon forgotten. It will be interesting to learn how he reached his conclusion as to the cyclonic or eddy-like structure of storms.

Franklin had arranged with a co-worker at Boston to take observations of a lunar eclipse at the same time that he himself was taking readings of it at Philadelphia. Early on the evening of the eclipse an unusually severe northeast wind and rain storm set in at Philadelphia, and Franklin was unable to secure any observations. He reasoned that, as the wind blew fiercely from the northeast, the storm was, of course, coming from that direction, and that Boston must have experienced its ravages before Philadelphia. Reports indicated that the storm was widespread. What was the surprise of Franklin, when, after the slow passage of the mail by coach, he heard from his friend in Boston that the night of the eclipse had been clear and favorable for observations, but that a terrific northeast wind and rain storm began early the following morning. He then sent out inquiries to surrounding stage stations, and found that at all places southwest of Philadelphia the storm had begun earlier, and that the greater the distance the earlier the beginning, as compared with its advent in Philadelphia. Northeast of Philadelphia the time of the beginning of the storm had been later than at that city, the storm not reaching Boston until twelve hours after its commencement at Philadelphia.

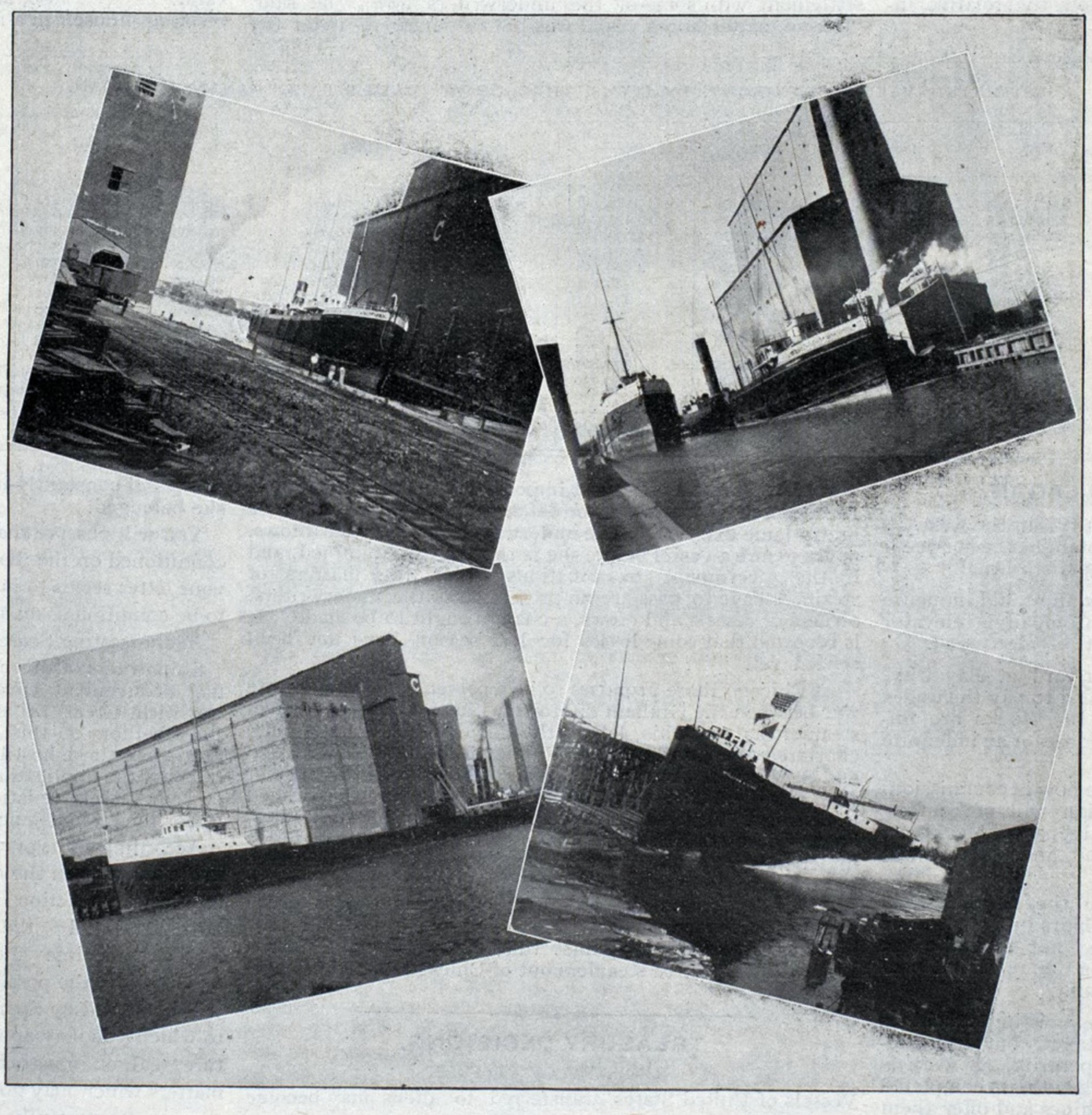
In considering these facts a line of inductive reasoning brought Franklin to the conclusion that the wind always blows toward the center of the storm; that the northeast huricane which Boston and Philadelphia had experienced was caused by the suction exercised by and advancing storm eddy from the southwest, which drew the air rapidly from Boston toward Philadelphia, while the source of the attraction—the center of the storm eddy—was yet a thousand miles to the southwest of the latter place; that the velocity of the northeast wind increased as the center of the storm eddy advanced nearer and nearer from the southwest, until the wind reached the conditions of a hurricane; that the wind between Boston and Philadelphia shifted, and came from the southwest after the center of the storm eddy had passed over this region, and that the force of the wind gradually decreased as the center of attraction passed farther and farther away to the northeast.

Another man whose name is dear to the heart of every patriotic American, conducted, in conjunction with his friend, J. Madison (afterward bishop), a series of weather observations, which were begun in 1771 and continued during the stirring times of the revolution. This was the sage of Monticello, Thomas Jefferson. Madison was near the sea, at the colonial capital, Williamsburg, Virginia; Jefferson was at Monticello, one hundred and twenty miles west. They took simultaneous observations for several years, until the British ransacked Madison's house and carried off his barometer.

Had the telegraph been in existence, Jefferson and Madison would doubtless have conceived the idea of a national weather service.—Prof. Willis L. Moore in Forum.

NEW LARGE GERMAN STEAMSHIP.

The Vulcan Co., of Stettin, has secured the order for a new Atlantic steamer for the Hamburg-American Co. to excel in speed every liner afloat, and the trial-trip speed guaranteed being 23½ knots on the measured mile, and 23 knots on the Atlantic. The vessel will be between 680 feet and 690 feet long over all; but the new White Star liner Oceanic, now building, is 704 feet over all. The North German Lloyd ship Kaiser Wilhelm der Grosse is 625 feet and her consort Kaiser Friedrich 580 feet. The Campania and Lucania are 622 feet long. The breadth, however, will not be much greater than these ships, being 66 feet, 6 inches; while the Kaiser Wilhelm der Grosse, although 60 feet less in length, is only 6 inches less in beam. The new ship is therefore exceptionally long for its breadth. The twin-screw engines, which are to develop a collective horse-power of 36,000 indicated, are to be of the quadruple-expansion type. The two low-pressure cylinders will drive the second and third cranks, the forward and after crank being actuated by tandem cylinders. This arrangement, it is believed, will give the best balancing arrangement, and the least twisting strain on the crank shaft. The boiler installation will not differ materially from that in the Kaiser Wilhelm der Grosse, which was built by the same firm at Stettin, but for the competing company, the North German Lloyd. There are in it 12 double-ended and two-single-ended boilers; but the boilers in the new ship will be worked under Howden's system or Ellis and Eaves' design of forced draught. The North German Lloyd and Hamburg-American jointly have also ordered four new twin-screws steamers to be built at the Vulcan Company's Works at Stettin, to be about 500 feet long between perpendiculars, or about 520 feet over all, and of 60 feet breadth. They will be fitted with two sets of four-crank quadruple-expansion engines, and three double-ended and three single-ended boilers, to develop 7,000 indicated horse-power under ordinary conditions, which will give them a speed of 15 knots. They will, however, be fitted with a system of induced draught, which, when brought into requisition, will enable the engines to develop 9,000 indicated horse-power, giving a speed of 16½ knots, which will be of great advantage for merchant cruiser work.



Four Views of South Chicago showing Grain Elevators, Steamers Loading, and Launch of a Steel Steamer from the Yards of the Chicago Ship Building Co.

THE STEEL STEAMER ALEXANDER McDOUGALL.

On June 20 the largest vessel ever constructed at the head of the lakes will be launched from the shipyard of the American Steel Barge Company, West Superior, Wis.

The new steamer to be named Alexander McDougall in honor of the general manager of the company, is 430 feet over all. The Thomson, Bartlett and Colby, which were constructed several years ago were all under 300 feet and at that time were considered large vessels. Later the Mather, Wilson, Colgate Hoyt, and Trevor, which were 320 feet in length, were turned out; then came the Frank Rockefeller 380 feet long, the John Ericsson 404 feet in length, and now the McDougall with a length of 430 feet.

The principal hull dimensions are 430 feet over all, 414 feet keel, 50 feet molded depth, and 27 feet deep. She has a double bottom 5 feet deep, extending fore and aft, with forward and after peak tanks, having a total water ballast capacity of 2,000 net tons. It is expected that she will carry 7,200 tons, or an equivalent of 240,000 bushels of wheat on the ordinary lake draft. Her propelling power will consist of a set of quadruple expansion engines of the Cleveland Ship Building Company's make, with cylinders 19, 28, 43, 66 inches diameter, having a stroke of 40 inches. There are two boilers of the Babcock-Wilcox water tube type, which will supply steam to the engines at 250 lbs. pressure. This vessel is constructed of steel throughout, and has thirteen cargo hatches, each 24x8 feet in the clear, spaced 24 feet centres, in addition to large hatch for coaling purposes, the coal bunker capacity being 350 tons. Two steel pole masts will be fitted, about 90 feet long, with a "crow's nest," for the lookout on foremast.

There is a departure in this vessel from others of the whaleback type, inasmuch as she is built with a "straight stem" and "top gallant forecastle" in lieu of the well known "spoon bow" now so familiar on the lakes. Accomodations are provided under the top gallant forecastle for the berthing of crew, wheelsman, watchman, etc., as well as lamp room, store room, lavatories, etc. The "texas," having accommodation for captain and mates, with bridges and pilot house above, is well forward, just abaft the forward hatch, and is connected to the forcastle head by a portable bridge. There is a large single turret aft inclosing the entrance to stoke hold and after quarters, firemen's quarters, engineer's cabin, etc. On top of after turret is a commodious steel deck house containing captain's spare room and quarters for chief engineer, steward, dining room, kitchen and pantry, crew's mess, staterooms, bathrooms, etc. The cabins and furniture are of polished hardwood, and will be equal in style to the most elegant passenger ship fittings. There is a complete installation of electric lights including arc lights on deck and in holds for facilitating the working of cargo at night. Steam steering gear, duplicate ballast pumps, ash pumps, steam winches and capstans are fitted all of the latest and most improved style. This latest addition to the American Steel Barge Company's fleet is the largest of her type afloat, and will be numbered among the one or two "monsters" of the Great Lakes.

The McDougall will be commanded by Capt. W. H. Kilby, late of the steamer Frank Rockefeller, who takes with him Mr. Irwin Marshall as chief engineer.

THE whaleback passenger steamer Christopher Columbus will arrive in Chicago on June 24, and will commence running excursions between Chicago and Milwaukee. She is to be fitted out with brass cannons and Gatling guns similar to an auxiliary cruiser, with officers and men to go through gun practice during the excursion on the lake.

NEW USE FOR CARRIER PIGEONS.

Consul Skinner, of Marseilles, writes, under date of April 6, 1898:

For a period of five years the Federation Colombophile de Marseille has been training homing pigeons for the purpose of securing information from ships at sea, and now furnishes reports of the complete success of the experiments. Birds released from Marseilles steamers at a distance of 500 kilometers from this port (the equivalent of about 312 miles) have reached the home lofts promptly. Similar experiments are being made on the Atlantic liners, and it is not too much too expect that in the near future there will be an end to the uncertainty often felt as to the fate of belated steamers.

THE PHILIPPINE ISLANDS.*

Local and European authorities estimate the area of the Philippine Islands at 150,000 square miles, and their population at from 8,000,000 to 10,000,000. The island of Luzon, on which the city of Manila is situated, is larger than New York and Massachusetts, and has a population of 5,000,000; and the island of Mindanao is nearly, if not quite, as large. There are scores of other islands, large and very populous. An idea of the extent of the Philippines may be formed when it is stated that the six New England States, New York, New Jersey, Maryland, and Delaware have 10 per cent less area. In addition to the Philippine Islands, the Caroline, Ladrone, and Sooloo groups are considered under the jurisdiction of this consulate (Manila). I have received a petition requesting that a consular agency be established at Yap, in the Caroline group.

In all, there are about two thousand islands in a land and sea area of about 1,200 miles of latitude and 2,400 miles of longitude.

During the quarter ended December 31, 1897, there were exported from these islands to the United States and Great Britain 216,898 bales of hemp (280 pounds per bale), of which 138,792 bales went to the United States and only 78,106 bales to Great Britain. During the year 1897 there was an increase in the export of hemp from the Philippines to continental Europe of 19,741 bales; to Australia, 2,192 bales; to China, 28 bales; to Japan, 2,628 bales; and to the United States, 133,896 bales—a total increase of 158,485 bales, while to Great Britain there was a decrease of 22,348 bales.

Thus, of increased shipments from the Philippines, those to the United States were 544 per cent. greater than to all the other countries combined.

Of the total exports of hemp from the Philippines for the ten years ended 1897, amounting to 6,528,965 bales (914,055 tons), 41 per cent. went to the United States.

During the same years the Philippine Islands exported to the United States and to Europe 1,582,904 tons of sugar, of which 875,150 tons went to the United States, 666,391 tons to Great Britain, and 41,362 tons to continental Europe; showing that of the total exports more than 55 per cent. went to the United States.

At the current values in New York of hemp (4 cents per pound) and of raw sugar (3⅜ cents per pound), the exports of these two products alone from these islands to the United States, during the ten years under review, amounted to $89,263,722.80, or an average of nearly $8,926,372* per year.

Data as to cigars, tobacco, copra, woods, hides, shells, indigo, coffee, etc., are not now obtainable; but a conservative estimate would so raise the above figures as to show United States imports from these islands to average about $1,000,000 per month. To-day, I have authenticated invoices for export to United States amounting to $138,066.12.

Later, I will write of the Philippine tariff, import and export, being now engaged in translating it into English. The export duties and charges here on the hemp and sugar exported to the United States, during the ten years ended with 1897, amounted to $5,172,994.87.

It is, from the above, very apparent that the trend of trade is toward the United States, and my best endeavors will be exerted for its further extension.

There are here twenty-two consulates representing the several countries, but the volumn of the export trade coming under my official supervision equals that of my twenty-one colleagues combined. OSCAR F. WILLIAMS, Consul.

MANILA, February 28, 1898.

*This report is to appear in the forthcoming edition of Commercial Relations, 1896–97, but is printed now on account of the general demand for information.

*According to the returns of the Bureau of Statistics, Treasury Department, the annual imports into the United States from the Philippine Islands amounted to $74,150,284 during the ten years ended June 30, 1897, or $7,415,028 per year. For the seven years ended with 1894, the imports averaged $8,564,611 per year, but for the last three years the imports fell off nearly one-half, amounting to only $4,731,366, $4,982,857, and $4,383,740, in 1895, 1896, and 1897, respectively.

BY running 580 knots on the last day of a recent westward Atlantic voyage, the Kaiser Wilhelm der Grosse has won the blue ribbon of ocean steaming.

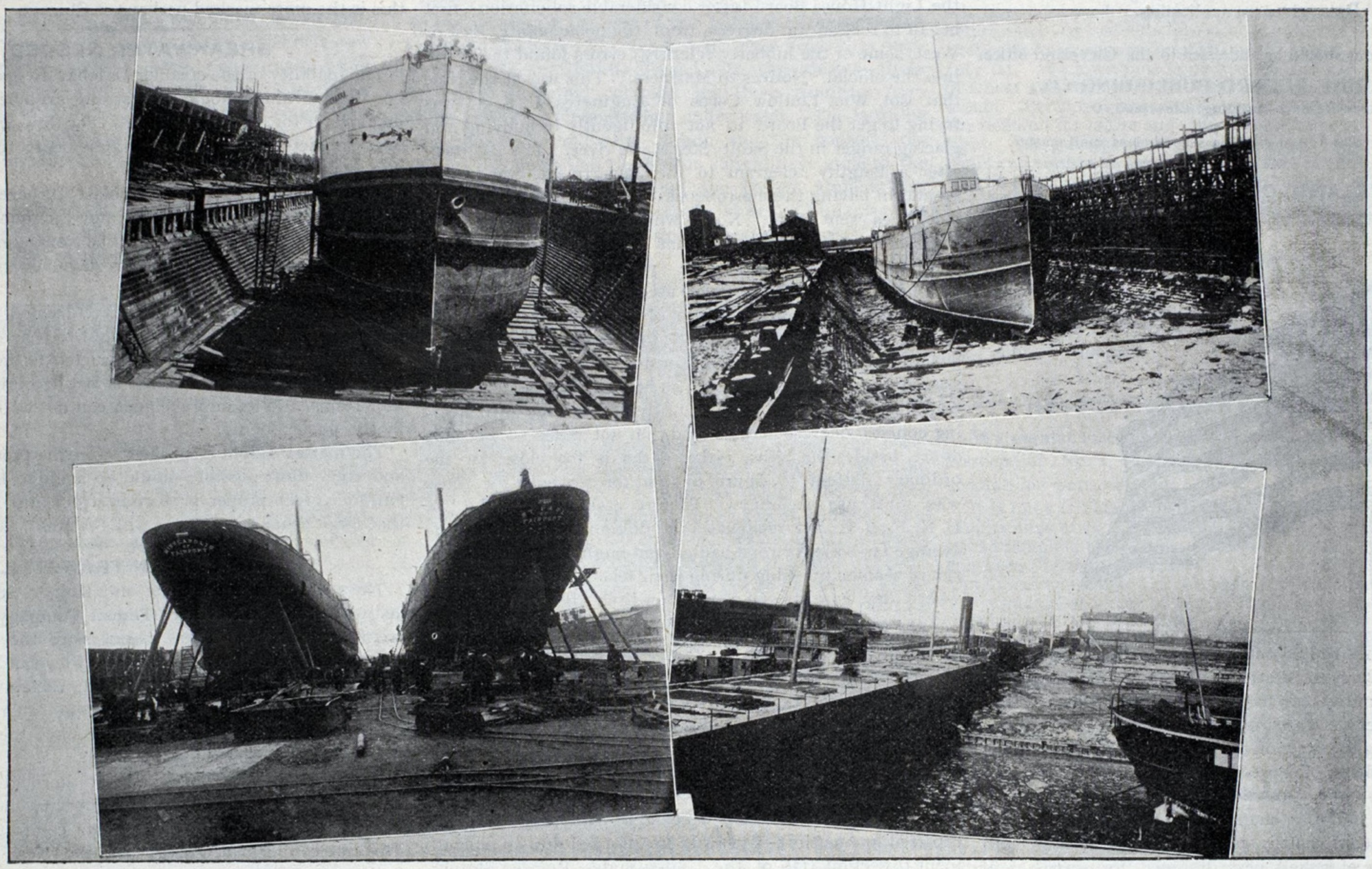
EQUINOCTIAL STORM THEORY EXPLODED.

The last issue of the Monthly Weather Review, issued by the Weather Bureau, Department of Agriculture, contains an article by the editor in which the venerable opinions that have been treated as axiomatic by popular writers are brushed aside as follows:

It would require a learned antiquarian to collect all the popular meterological errors that have been started from time to time and that are still afloat in some part of the world, like derelicts on the ocean. It is not so very long since Prof. Loomis demonstrated the error of those who maintained that there is a specific equinoctial gale or storm that reappears every year. We are even now just emerging from the influence of a century of delusion relative to the idea that forests produce rain and that agricultural cultivation of the soil produces droughts.

The article goes on to declare that the influence of the Gulf Stream on our own or European weather is "inappreciable in comparison with the general influence of the ocean," and that the Japan current or Curo Siro, of the Pacific, has little or nothing to do with the formation and character of the chinook winds. The Japan current, it is pointed out, is fully 6000 miles from Montana, where the chinooks coax vegetables into early life.

The winds that blow over it (the Japanese current) form a part of the general circulation of the Pacific ocean; eventually, they get into a whirl around the great depression in the North Pacific ocean in the neighborhood of the Aleutian islands. The rain and fog in this region and on the coast of Alaska, British Columbia, Washington and Oregon are demonstrated due to the evaporation from the Pacific ocean as a whole and to the fact that the winds are rising up over the Rocky mountain region. The Japan current, properly so-called, is due to this circulation of the winds; the winds are not due to it. Each square mile of the Pacific ocean has a slight influence on this circulation, but the Japan current does not occupy 1 per cent. of this area. The mere fact that the westerly winds are rainy and cloudy on the Pacific coast but are warm and dry in Montona suffices to show that they have undergone a change in passing over the monntains and that the main features of these winds are due to something that takes place in the Rocky mountain region and not on the coast of Japan.



Views of the Yards, etc., of the Chicago Ship Building Co., South Chicago, Ill.

Through the courtesy of General Manager W. I. Babcock.

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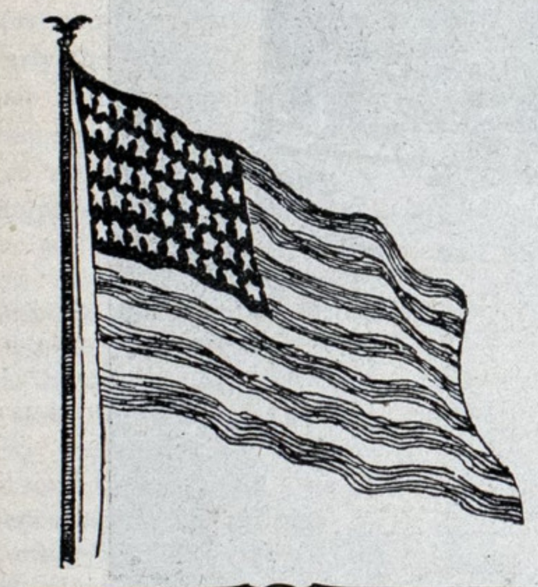

COLONEL BURKE United States Consul at St. Thomas, will present Capt. Berry, of Port Stanley, and his life-saving crew with gold medals, awarded by the Department of Marine and Fisheries at Ottawa for the heroism they displayed last fall in saving the crew of the American schooner Groton, which foundered off Port Stanley.

OUR NAVY in building, manning, armament and equipment will be reconstructed, as a result of the war with Spain. The type of vessels best designed for service will have been arrived at. Several of the old admirals will be retired and the best possible armanent with the necessary equipment will have been devised, owing to the experience, practice and exigencies of the present squabble. Spain has not met us anywhere, that is to say on land or sea, at the same time our people have been able to see where we are lacking in offensive or defensive tactics and supplies.

THE Light-House Board have issued this week the usual annual list of beacons, buoys and day marks of the United States on the northern lakes and rivers, corrected to the opening of navigation, 1898. Mariners and others interested in commerce and the preservation of life and property from loss by shipwreck are earnestly requested to give prompt information to the Inspector of the Ninth Light-House District, Chicago, Ill., the Inspector of the Tenth Light-House District, at Buffalo, N. Y., or the Inspector of the Eleventh Light-House District, at Detroit, Mich., of cases in which any of the buoys or day marks described in the list are out of position, and of all cases in which the published instructions from the Board are not strictly executed, that the Board may, with as little delay as possible, apply the proper remedy, and prevent neglect of duty in matters connected with the day marks of the United States.

COMPASS BEARINGS.

If the "Notices to Mariners" printed in several daily newspapers, purporting to be sent out by Lieut. Commander Duncan Kennedy, U. S. N., Inspector of the Eleventh Light-House District, is according to his copy, then we must have some new compass dials accompanied by brass bound instructors furnished the high classed tonnage threading its way through the St. Clair river to elucidate the given bearings. We don't object to N.W. ⅝ N. although we would have to get down to seconds of arc to reach there and compass dials are not marked to seconds. N. 38° W. would have been more shipshape, correct, and according to modern usage. We do object though, and rather steenuously, to any naval officer endeavoring to befog lake pilots and masters by sending out such a bearing as E.N.E. ¾ E., when he ought to have said E. by N. ¼ N., or better still N. 70° E. Another daisy bearing is E.S.E. ⅜ E. What is the matter with E. by S. ⅝ S. or S. 72°E. There seems to be a smack of that soldierly ruse in the published bearings now before us, as given by the Light-House Inspector; they march you up the hill and then they march you down again, or in other words, waltz you mentally away to the Southward or Northward, as in the two instances quoted, and then whirl you back again to where you ought to be, or rather never have passed. When the Light-House Board (after considerable solicitation), first began to reckon in degrees, from the polar points, East or West, some of the lubberly (clerkly) errors found their way into the official "Notices to Mariners." This was at the time that Col. Wm. Ludlow, Corps of Engineres, U. S. A., was trying to get the Board to act intelligently in buoying and placing ranges in the Sault Ste. Marie river. The RECORD, after a lengthy telegram to the Department, was instrumental in having these erroneous notices cancelled and correct ones sent out. Now, while the foregoing bearings are not incorrect, in so far as the angles may be concerned, or at least we persume not, yet, the manner of stating, the language used, is practically and positively against the ordinary use of compass terms E. N. E. ¾ E. is E. by N. ¼ N., or it is N. 6¾ points E., or N. 76° E., but we hope there is not a salt-water impostor or a fresh-water laborer afloat, that would so bedevil the sea-clock as to read the bearing E. N. E. ¾ E. Giving bearings or in steering courses, degrees may be used, but not miles or seconds of arc, besides the ⅜ths, ⅝ths, ⅞ths is too close for the ordinary flatfoot to figure on, and too slovenly for those who must use accuracy. In any case E. S. E. ⅜ E., or E. N. E. ¾ E. are elegancies of diction unknown to the average tar-boiler or rope-hauler, and might keep the general run of seamen guessing during their leisure hours to find out where they were at. Of course Bowditch and other nautical authorities would say, E. S. E. ⅞ E., or E. S. E. ½ E., but such courses or bearings are never used in practice, and it is from this standpoint that we look at the question, exactitude does not call for fractions of a point.

REGISTERING FOREIGN BOTTOMS.

Additional safeguards to prevent the fraudulent registration of foreign-built vessels wrecked in American waters and repaired in American shipyards are afforded by an amendment to section 4136 of the United States Revised Statues, which has just been reported by Senator Elkins from the Senate committee on commerce, with the recommendation that it be registered only upon the presentation of satisfactory proof "that the repairs put upon such vessels were made in the United States and are equal to three-fourths of the appraised value when so repaired; provided, that any vessel admitted to American registry pursuant to this section which shall engage in the coasting trade or fisheries of the United States shall be subject to forfeiture."

The report presented by Senator Elkins states: "The purpose of this amendment, in the judgment of the (commerce) committee, is to compel a better adherence to the established policy of the government for a hundred years prohibiting foreign-built vessels from taking part in the American coastwise trade, to the injury of American-built vessels in that trade, and to American shipyards; also to prevent speculation in American registers and to place the cost of repairs upon such foreign-built vessels that may be wrecked in our waters and admitted to American registry upon a basis that will be just and fair."

It is also stated in the report that "in order to get an American enrollment and admission to the coastwise trade, foreign vessels are often wrecked in our waters for that purpose alone."

LAKE FREIGHTS.

There is a large quantity of iron ore being carried, an amount in excess of a million tons more than was carried up to this time last year, yet for the past two weeks owners and brokers have found it difficult in many instances to charter at the low freights of 40 cents from Escanaba, or 50 cents from Lake Superior to Lake Erie ports, figures which seem to have become fixtures, so steady have they held, irrespective of loading or discharging facilities, whether vessels had good despatch or met with detention. Up to the present owners appear to think that there is some chance of earning more than expenses if the boats are kept going, for laying them up is a continuous item of expense. However, a good many boats have season charters and must be kept running, while the large lines, controlled by the mine owners, must also keep their craft moving.

The latest quotation on grain from Chicago is ¾ cent on corn to Buffalo, a decline of ¼ cent, which with the ⅛ cent elevator charges makes the total charge of ⅞ cent per bushel delivered.

Coal freights hold at 20 cents anthracite or bituminous, Lakes Michigan or Superior, with only a moderate amount of chartering.

Lumber carriers have been doing fairly well, but sooner than accept cut rates some of the boats are being laid up, this is the more marked perhaps at Chicago.

BREAKWATER NEEDED.

The inability of the steamer Oglebay to get into the harbor this morning, should be a strong argument in favor of a breakwater for Lorain harbor. The sea was rolling high over the piers, and to such an extent that the big steamer was unable to get in.

With the completion of the blast furnaces, this harbor will receive many large vessels, and the question naturally arises whether those vessels will be compelled to lie out in the lake for hours and possibly days, every time a heavy wind makes the lake rough.

Since the citizens of this city have decided to improve the river, every effort should be brought to bear on the government to have a breakwater constructed in front of the harbor entrance. Lorain's harbor is fast becoming one of great importance and its improvement can not well be neglected by the government.

The matter should be pushed before the proper authorities, and every effort possible should be made to have the harbor entrance given proper protection from the heavy seas, so that large boats can enter at will.—Herald, Lorain.

THE NORTHERN TRANSIT LINE.

The steamers Empire State and Badger State, purchased last winter by the Northern Transit Company, of Cleveland, are now in service. These steamers are the initial boats to form a line to run between Toledo, Cleveland and Ogdensburg, N. Y., calling at Oswego and Alexander Bay and the Thousand Islands. There has been no American line from Cleveland, to the Thousand Islands since the old N. T. Co. stopped operations twenty years ago.

Both of these steamers have been thoroughly rebuilt, furnished throughout, lighted by electricity and given all the latest appliances for the safety and comfort of passengers. This line connects at Oswego with the New York, Ontario & Western Railway and can quote through passenger and freight rates to New York and intermediate points on that railway. They connect at Alexandria Bay with steamers for all resorts in that vicinity, and at Ogdensburg with the Ogdensburg & Lake Champlain Railway, Central Vermont line for New England points and with the American line for Montreal, Quebec, etc. The Empire State left Cleveland June 12th and the Badger State June 16th, at 3 p. m. The round trip occupies nine days. Farasey & Marron, the well-known steamship agents and forwarders, of Cleveland, are general agents for the new company.

LAKE RATES NOT ADVANCED.

This week was the time fixed by the Joint Traffic Association for the restoration of the rate of 20 cents on all grain except corn, from Missouri river points to New York. The western representatives of trunk lines declare that they obeyed the mandate, but when asked whether they would maintain the rate smiled broadly. One of them said: "Oh, yes, of course, while the lake lines are charging 12½ cents we are very likely to maintain a 20-cent rate." The understanding was that the lake lines were to advance to 17 cents when the all-rail lines advanced to 20 cents, but investigation seems to show that the lake lines have done nothing of the kind. It is consequently out of the question for the railroads to stick to the 20-cent rate.

LARGEST CARGO EVER CARRIED ON THE LAKES.

The 7,000 ton cargo mark toward which lake vessels have been advancing rapidly during the last two years, was reached and passed, and the 7,500 ton mark almost touched by the cargo of grain loaded into the Superior City, at South Chicago on Monday last. It consisted of 266,550 bushels of corn, weighing 7,462.9 net tons, and is by long odds the greatest amount of freight ever put on board a boat on fresh water. Even with this immense cargo the Superior City was not fully loaded. Her mean draft was 18 feet 2 inches, with a large amount of fuel on board.

Incidentally two records for handling big cargoes were broken at South Chicago. Last week the Superior City reached that port from Escanaba with a cargo of 6,754 gross tons of iron ore. She went to the Illinois Steel Co's. dock, and in exactly twelve hours the cargo was discharged. She has thirteen large hatchways, and the work was carried on from all of them. Eleven men worked to a hatch, making a total of 143 men engaged in the work. This is a record that beats the world, so the officials of the steel company state, and no doubt they are perfectly correct. Tuesday when the Superior City was taken to Counselman's elevator on the Calumet, her big cargo was put on board in just seven hours, which eclipses all former loading records.

The largest previous grain cargo was taken by the William R. Linn, and was 232,000 bushels of corn. This is now beaten by 34,500 bushels, and the excess would make a big cargo in itself less than a score of years ago. The latest record will stand until the new Bessemer line steamer, now building at Bay City, comes out. This boat will be 25 feet longer than the Superior City, and her carrying capacity that much greater.

Unless the new whaleback steamer McDougall carries more than her estimated maximum cargo 7,200 tons, she will not have the distinction of being the largest carrier on the lakes.

THE EVANSTON LIFE-SAVING STATION.

A site for the Evanston life-saving station has been selected two and one-half miles north of its present location. It has for twenty years stood on the land of the Northwestern University, but has to be moved because the land is required by the university for other purposes. During all those twenty years every crew has been composed of students of the university. The station is in commission nine months or more of the year, and the pay of $65 per month is most acceptable to the poorer students who have otherwise to scrape hard to make ends meet. It is recorded that so many have been the disasters near that point and so heroic the work of the student life-savers that few of them have escaped the government gold medal, which is the highest award for the saving of life in this country. The change is considered an improvement, as wrecks generally occur nearer to the new site than the old.

SAGINAW BAY LUMBER SHIPMENTS.

Lumber shipments by water thus far are about double what they were last year for the same period. The total shipments to June 1 aggregate 19,774,000 feet, of which 3,102, 000 feet went from Saginaw and 16,672,000 feet from Bay City. Logs are being towed over from Canada in job lots. The Saginaw Lumber & Salt Co. received two rafts containing 6,000,000 feet, and one of 4,000,000 feet left Georgian Bay on Friday last. The rate for towing logs from Canada this season is $1.50 per 1,000. The Saginaw Lumber & Salt Co. sold 250,000 feet of long Norway to go to Cleveland, and has began running its plant day and night. Its stock of old lumber which goes into the wholesale market is practically exhausted. The demand just now is for the cheaper grades of lumber.

IMPROVEMENTS AT SHEBOYGAN.

The Rialto Grain Co., Milwaukee (Nye, Jenks & Co.), has submitted a proposition to the common council of Sheboygan in which they state that if the city will improve the river up to the Pennsylvania avenue bridge and do the necessary dredging, the company will take a ten years' lease of a modern elevator to be erected by the Chicago & Northwestern Railway Co. There must be 20 feet of water from the government work to and including the winding basin, and 17 feet from there to Pennsylvania avenue bridge. Should the company's proposition prove acceptable work will at once be commenced on the elevator, so as to have it ready for business the coming fall. The offer is so advantageous to the city that there can be but little doubt that the improvements will be entered upon at an early date.

MUST REMOVE CINDER FILLING.

The War Department gave the Pennsylvania Railway Company until June 15 to remove the cinders which they have filled into the river at the present head of navigation at Ashtabula, and which is a barrier to navigation above the Lake Shore bridge.

PINTSCH LIGHT FOR RACINE REEF.

Representatives Cooper and Miner have secured from the Light-House Board a promise for the establishment of a Pintsch light on Racine Reef. The light is to be placed on a crib which will project 20 feet above the surface of Lake Michigan. The improvement will cost $7,500. The light will be designed to remain throughout the season.

NO ELECTRIC WIRES IN CARGO HOLDS.

The board of survey of the Inland Lloyds underwriters is understood to have under consideration the propriety of withdrawing classification of all steamers carrying electric wires in their holds. The recent fire on the Canada-Atlantic Line steamer German originated from this source, and although only a small amount of grain was at first reported ruined it is now understood that the smoke damage will amount to several thousand dollars.

DAMAGES DIVIDED IN A COLLISION CASE.

In his decision in the case of the Mitchell Transportation Co. against the Susan E. Peck, Judge Swan holds that damages to the Nelson shall be divided into two classes—those sustained in the actual collision, and those resulting from sinking and lying for some time under water. The latter he holds, must be borne by the Nelson and her consort, the Folsom. He holds that the Nelson should have gone to the first port for repairs, but instead she passed Amherstburg and sank at a point farther down the river. The damage incurred in the actual collision shall be borne equally by the Peck, Folsom and the Nelson. The wreck happened near the center of the Limekilns channel. The Folsom and Nelson were to blame for not getting out of the way, and the Peck was to blame for not checking her engines.

LAKE TRAFFIC.

Here is a little story that will interest people living around the lakes. It is from the New York Press:

In the Sign Painter's basement in New street, the other day some brokers and railroad men were sipping "Morning Glories" when one said: "I want to make a bet of $100 even that the tonnage passing through the St. Mary's canal in one year is equal to that of all the vessels of the Atlantic coast engaged in the foreign trade during the same period." There was of course, a great rush to get on, and the wager was taken seven times by the seven friends present. The idea of little St. Mary's, a mile and a third long, with a lock eighteen feet deep, connecting Lake Superior with Lake Huron, approaching the tonnage of all vessels of the Atlantic coast engaged in foreign trade? Ridiculous, Incredible. But when the statistics were produced there was a dropping of jaws, for in one year the tonnage passing through the canal was over 22,000,000 tons, while that of the Atlantic coast was 21,500,000. And, remember, the canal is open to navigation only 225 days in a year.

Having pocketed his $700 the better said: "This looks too easy. I'll give you boys a chance to get your money back. I'll bet $100 even seven times that the tonnage passing through the Detroit river, between Lake Huron and Lake Erie, in a season of 228 days is one-half more than all tonnage in the foreign trade entering and clearing at London in a whole year, more than double that of Liverpool and nearly equal to the two combined." Again he was taken, and again he won. He had the figures. London was under 14,000,000, Liverpool under 11,000,000, the Detroit river over 23,000,000.

AN officer of the Cramp Ship & Engine Building Co. is thus quoted: "Give us three years, and America will take the shipbuilding of the world; give us standard types and bunched orders and we will take the lead in two years." This year the Cramp yards are employing 3,518 men, against 1,119 a year ago, and it is estimated that within six months 5,000 men will be employed. What uniform types in manufacturing mean is well illustrated by the offer of the Cramps to the government a few years ago to construct three warships of uniform type for the price of two of diversified type. The bid was rejected as "irregular," but it may not always be thus. It is figured that as against less than $4,000,000 the past year, the next year's business of the company will run $6,000,000, and over, exclusive of the $1,200,000 yet to be spent on the Alabama.

SURVIVAL OF THE FITTEST.

The new "protected cruiser" cruised upon the ocean wide,
Till a man-of-war espied her and punched holes into her side.

And the man-of-war continued for a little while to float,
Till driven to the bottom by a new torpedo boat.

Then while the foe triumphant rubbed his hands and softly laughed,
Torpedo boat destroyers came and sunk the other craft.

And as the victor dashed about, through battle's smoke and murk,
Destroyers of torpedo boat destroyers did their work.

Whereat into the action something new in vessels came—
"Destroyers of destroyers of destroyers" was its name.

Which brings the matter down to date, where it will rest, no doubt,
Until some ten times wrecker of destroyers ventures out.

—Toledo Blade.

EASTERN FREIGHT REPORT.

Messrs. Funch, Edye & Co., New York, report the freight market as follows: we can point to a slight increase in the number of steamers closed for full cargoes of grain, which, however, with the exception of two fixtures from Baltimore, have still been effected for account of the Chicago speculator, to the exclusion of regular shippers. Rates for prompt vessels have advanced to 3s. 6d. for Cork f. o., the value being determined by vessel's prospective ability still to reach France before resumption of the duty there on cereals on July 1st. We must now hope that the reduction in the price of wheat will soon permit the resumption of legitimate shipments. Berth freights in the interim continue very dull, as the demand for maize and the minor cereals is unusually light. The general enquiry for steam tonnage, except for deals and timber, is very limited. The declining tendency for the former freights has been maintained, whilst timber freights remain strong, and the enquiry for this branch continuing, a higher range of rates may be considered as established for some months to come.

Business in sail tonnage during the past week continued restricted, on grounds explained in our last circular, whilst rates remain exceedingly firm. Of a number of charters mentioned as closed from the Gulf ports for timber to Europe, the major part are charters made previously, but only now publicly reported.

RESOLUTIONS OF CONDOLENCE.

At a regular meeting of the Marine Engineers' Beneficial Association No. 4, of Chicago, the following preamble and resolutions were adopted:

It is but a tribute of justice to those of our associates and companions after they have passed beyond our natural vision to contemplate their lives and labors. If that life and labor has been dictated and devoted to the principles of virtue it should be commended in the highest and loftiest terms; but the standard of virtue or vice is fixed by most all men from their peculiar point of view. As an Association this one has a fixed and imperishable standard and code of morality. Its beginning is at the lowly cradle of Bethlehem and finishes at the rugged hills of Calvary. In so far as the life and labors of a man is devoted to the elevating and bettering the conditions of his fellow being, it is profitable and well spent.

Resolved, The life of Bro. Thomas F. Dowd, our companion and associate, we remember as the untiring and zealous worker to advance the humanity rights of man. It might truly be said of him: "The world was his country, and to do good was his religion." He did not live like countless thousands of his race, to counteract the blessings of a wise and generons Providence among mankind, and which is disavowed by nature and abhorred by God. It was once said of Lafayette: "To know Thomas Jefferson was a a liberal education." What a magnificent tribute to his memory. A book of words to commemorate could not have said as much.

Resolved, So we can say of Bro. Thomas F. Dowd, who knew him longest and best, that he was a gentleman by courtesy and a Christian by the grace of God, who loved his fellow man so much and himself so little.

W. L. WEBSTER,
Committee on Resolutions.

LETTERS AT DETROIT.

MARINE LETTERS REMAINING ADVERTISED IN DETROIT, MICH. P. O. JUNE 17TH, 1898.

Adams Arthur, Sch. Pennigton	Laffin Patrick
Bickel John S.	Maguire Wm. Str. Nebraska
Beach Hiram	McKimion Alex.
Cloon Wm.	McGregor Will J.
Donovan Capt. T. 2, Str. W. B. Hall	Patterson Cecil, Str. Oglebay
	Peterson W. N.
Gerlach Harry	Reilly Will, Str. Argonaut
Glass L.	Reardon C. A.
Haskell Stephen, Str. Donaldson	Rayburn Chas. E.
	Richards Pete
Howard Andrew	Storrs Frank
Johnson Burt	Storrs J. W.
Kelly John J.	Stevens Geo., Str. Robt. Mills
Laroy Merton, Str. John Spry	Turnbull Wm.
Lindstrom Carl	Utley R. Z. Str. Kalkaska

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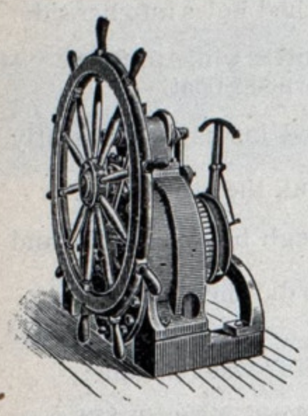

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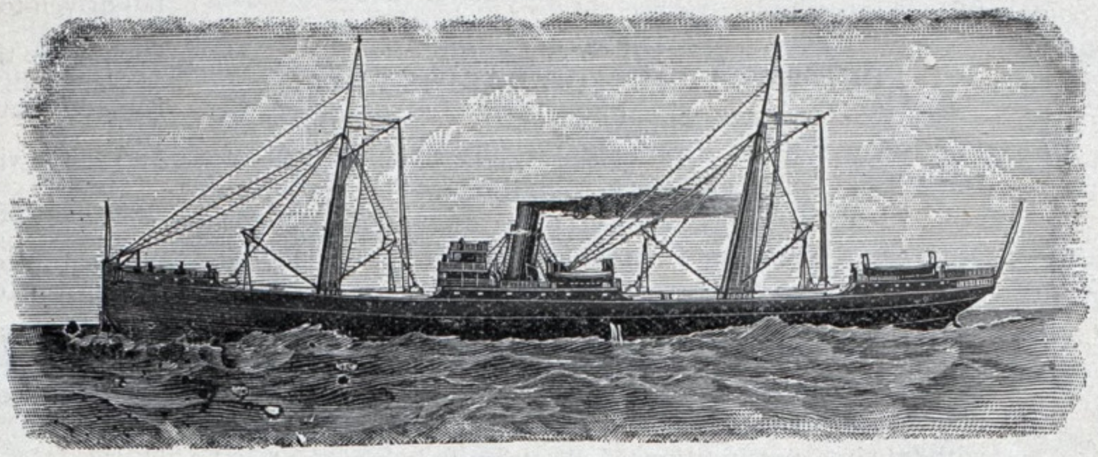

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THE FIRST STEAM WAR SHIP.

The first steamship constructed for use in war was the Fulton, designed by Robert Fulton for the United States Navy; and her destruction by the explosion of her magazine is brought to mind by the Maine disaster. The design included an engine to throw hot water over an enemy's deck and into her portholes. The scheme was never brought into practical use. Accounts of the vessel crossed the ocean and grew on the way. One description, published in Scotland, said that the Fulton, "by mechanism, brandished 300 cutlasses with the utmost regularity over her gunwales; works also an equal number of heavy iron spikes of great length darting them from her sides with prodigious force, and withdrawing them every quarter of a minute." All that was pure invention, of course; but it was not more incredible than would have been a truthful description of the devices for killing with which the modern warships are equipped.—Youth's Companion.

THE BLIND LEADING THE BLIND.

A recent publication, mainly consisting of business cards relating to the fitting out and supplying of vessels, contains some very interesting specimens of lake navigation in regard to bearings and courses, for the edification of the younger officers of the lake-faring fraternity.

The well known proposition, that in a plane triangle two sides are alike when the angles opposite them are alike, has been taken advantage of to instruct young officers how to find the distance from an object "without chart, parallel rulers, or dividers." For, when the angle between ship's course and first bearing of an object equals the angle between the first and second bearing of the same object, the distance run in the interval between bearings, equals the distance from the object when the second bearing was taken; and the angle between ship's course and second bearing is always twice the angle between ship's course and first bearing, or twice the angle between bearings.

Unfortunately, in practice the rule does not hold good, nor insures the safety of a vessel, when the angle at the object is less than 4 points; yet young officers are advised to make the angle 1½, 2 or 3 points, by ignoring the effect a small error in the first bearing has on the result.

Supposing the distance of the object to be 10 miles at the first bearing, forming an angle of 1½ points with the ship's course; after a run of 5.22 miles the bearing of the same object will form an angle of 3 points with the ship's course, and the distance of the vessel from the object at the second bearing will also be 5.22 miles. But, supposing the first bearing to be ¼ point wrong, the distance from the object will be two miles wrong; and at the second bearing, instead of 5.22 miles, be either 7.22 miles or 3.22 miles. So much will the place by reckoning or rule differ from the true place the ship is in.

Under the assumption of an error of ¼ point in the first bearing, we have the following table for comparison:

1	2	3	4	5
Assumed distance from object at first bearing. Miles.	Angle between 1st bearing and ship's course. Points.	Distance run between bearings. Miles.	Error in distance from object at 2nd bearing. Miles.	Ratio of values in columns 3 and 4.
10	1½	5.22	2.00	0.38
10	2	5.41	1.03	0.19
10	3	6.02	0.91	0.15
10	4	7.07	0.67	0.09

From which it is evident that the error in distances from the object increases rapidly when the angle between bearings decreases; and that for 4 points the error is still $\frac{1}{11}$ the distance run in the interval. For this reason bearings must never be less apart than 4 points, nor more than 12 points; a rule which the sages of the lake fraternity are evidently not familiar with.

Another interesting piece of mathematics passed around in lake-faring circles is furnished by the problem of finding the distance from an object by bearings 3 points before and 3 points abaft the beam. The rule reads: "The distance run in the interval will be the distance off the object (lighthouse) at the time the last bearing was taken." 3 points before and 3 points abaft the beam makes the angle at the object 6 points; and 3 points subtracted from 8 points leaves for each angle at the base line 5 points. Therefore, according to the above: In a triangle, the side opposite an angle of 6 points equals the side opposite an angle of 5 points, by the rule of thumb.

With 3 points before and 3 points abaft the beam, the distances from the object when bearings were taken are only $\frac{8}{9}$ the distance run in the interval. But with 2¾ points, the distances nearly equal the distance run. This difference of ¼ point in bearing is sometimes sufficient to bring the vessel ashore.

As regards courses in the publication mentioned, such funny names are used as: NW. by N. ¾ N.; NW. by N. ⅛ N.; SW. by S. ⅝ S.; indicating to everybody conversant with the compass the lack of training in navigation of those who want to instruct young officers.

JOHN MAURICE,
Civil Engineer and Nautical Expert.

Chicago, June 12, 1898.

THE WORLD'S COAL RESERVE.

Le Moniteur Industriel has an interesting article on the production and estimated resources of coal of the different countries of the world. It shows that the production is increasing every year, having grown from 408,000,000 tons in 1885 to 513,000,000 tons in 1890, and to 560,000,000 tons in 1894. It has probably reached 600,000,000 tons in 1897. An estimate of the available coal stocks has been made, and on the rate of the increase in production it has been calculated how long these stocks will probably last. The amount of coal yet available can, of course, be estimated only, but in the case of Europe, where the geological research has been very thorough, the estimated figures will not vary much from the actual ones. The estimate for the principal coal-producing countries of today is as follows:

	Millions of tons.
Great Britain	198,000
Germany	112,000
France	18,000
Austria-Hungary	18,000
Belgium	15,000
Total for Europe	360,000
United States	684,000
Total	1,044,000

In about 500 years the coal stocks of Aurtria, France and Belgium will be exhausted, and after 700 or 800 years Europe will be obliged to get its supply of coal from other parts of the world. But there are large resources of the United States which can be drawn upon, and finally the coal beds of China which explorers have pronounced enormous, and which soon will be touched by drill and pick, and forced to give up their black treasure. There is coal enough for generations to come.

NOTES.

"SPUN YARN" is the title of a book of sea stories by Morgan Robertson, and published by Harper Bros. The stories are good and chiefly distinguishable from the orthodox inanities of the sea-writer by their exactness to the code observed aboard ship.

IRVING M. SCOTT, of the Union Iron Works, San Francisco, Cal., the builder of the battleship Oregon, whose run from San Francisco to join Adml. Sampson's squadron, was the best on record, left New York June 7 for St. Petersburg on the North German Lloyd liner Kaiser Wilhelm der Grosse, to seek contracts from the Russian government. His son, Lawrence Irving Scott, a student at Cornell University, and Dr. George Chismore, a physician of San Francisco, accompanied him.

JUDGING by the slop that is being sloshed over the battleship Oregon, as the result of her successful trip around the Horn, one would think that she was a dory or a billyboy instead of a floating fort, designed to defy God and lick creation. The whole business gives away the fact that, in the Oregon's case, the unexpected has happened. It also shows that the Scotts of San Francisco, her builders, have made no mistake in their choice of an advertising agent.—Coast Seamen's Journal, San Francisco.

WHEN the Captain of the Paris sought to re-assure his passengers on the last trip from England he said, with much nonchalance, "Under full headway the Paris can cut through fifteen Spanish warships." That was a slight exaggeration, of course, but experience has proved more than once that safety in a collision at sea depends on the speed of the moving body. A steamer of 10,000 tons displacement, traveling 20 knots an hour, goes through an ordinary vessel like a hot knife through butter, escaping without a scratch.

THE annual meeting of the William Cramp & Sons' Ship and Engine Building Co., was held in Philadelphia May 26. Twenty stockholders, representing, with proxies, 39,000 out of nearly 50,000 shares, were present. The report for the year ending April 30, showed that between 5 and 6 per cent. was earned on the capital stock. The total business done was $3,912,417. The orders now on hand aggregate $10,000,000. $1,500,000 borrowed from bankers was paid off. All the old directors were re-elected, with the exception of Henry Seligman, who retired in favor of his brother, Theodore Seligman.

VISIBLE SUPPLY OF GRAIN

As compiled for The Marine Record, by George F. Stone, Secretary Chicago Board of Trade.

CITIES WHERE STORED.	WHEAT. Bushels.	CORN. Bushels.	OATS. Bushels.	RYE. Bushels.	BARLEY Bushels.
Buffalo	973,000	1,067,000	1,700,000	193,000	172,000
Chicago	1,007,000	8,353,000	426,000	333,000	13,000
Detroit	40,000	136,000	14,000	23,000	.....
Duluth and Superior	4,199,000	2,334,000	493,000	122,000	43,000
Milwaukee	122,000	.....	.....	4,000	5,000
Montreal	290,000	202,000	1,091,000	12,000	32,000
Oswego	.....	18,000	.....	.....	.....
Toledo	245,000	746,000	112,000	24,000	.....
Toronto	20,000	.....	2,000	.....	2,000
On Canal	17,000	628,000	623,000	43,000	129,000
Grand Total	19,682,000	21,445,000	7,113,000	1,178,000	497,000
Corresponding Date, 1897	22,686,000	16,621,000	9,756,000	2,361,000	1,517,000
Increase	.....	286,000	.....	.....	.....
Decrease	2,905,000	.....	756,000	104,000	86,000

While the stock of grain at lake ports only is here given, the total shows the figures for the entire country except the Pacific Slope.

NEW VESSELS LISTED.

New vessels listed in the supplement to the Inland Lloyds Register for June are as follows: Steamer Amazonas, 1,931 net tonnage, owned by James Davidson, of West Bay City, and valued at $120,000; steamer Orinoco, 1,929 net tons, owned by James Davidson, of West Bay City, and valued at $120,000; steamer Superior City, 3,694 net tons, owned by the Zenith City Transit Co., of Duluth and valued at $240,000; tug Charles F. Dunbar, 93 net tons, owned by the Maytham line of Buffalo and valued at $30,000; tug Marion, 43 net tons owned by Hickler Bros., of Sault Ste. Marie, and valued at $15,000; steel barge David Z. Norton, 2,926 net tons, owned by the Wilson Transit Co., of Cleveland, and valued at $115,000.

SUN'S AMPLITUDES.

The following approximate amplitudes of the Sun's rising will be given each week in this column during the season of navigation. A second bearing may be taken by compass at sunset by reversing the east bearings given for the nearest latitude, as the change in declination for a few hours makes but a slight difference in the true bearing of the Sun's setting:

LAKE ERIE AND S. END LAKE MICHIGAN, LAT. 42° N.

Sunrise.	Bearing.	Bearing.
June 16	E. 32° N.	N. E. by E. ⅛ E.
June 23	E. 32° N.	N. E. by E. ⅛ E.

LAKE ONTARIO, S. END HURON AND CENTRAL PORTION LAKE MICHIGAN, LAT. 44° N.

Sunrise.	Bearing.	Bearing.
June 16	E. 33° N.	N. E. by E.
June 23	E. 33° N.	N. E. by E.

N. END LAKES HURON AND MICHIGAN, LAT. 46° N.

Sunrise.	Bearing.	Bearing.
June 16	E. 34° N.	N. E. by E.
June 23	E. 34° N.	N. E. by E.

LAKE SUPERIOR, LAT. 48° N.

Sunrise.	Bearing.	Bearing.
June 16	E. 36° N.	N. E. ⅞ E.
June 23	E. 36° N.	N. E. ⅞ E.

With a compass correct magnetic, the difference between the observed and true bearing or amplitude will be the variation for the locality. Should there be any deviation on the course the vessel is heading at the time of taking the bearing, the difference between the observed and the true amplitude after the variation is applied, will be the amount of deviation on that course. If the correct magnetic bearing is to the right of the compass bearing, the deviation is easterly, if to the left, the deviation is westerly.

This season, the steamer Georgia, of the Goodrich line out of Chicago, carries, in addition to her regular crew, a boatswain and five sailors. They are all neatly dressed in uniforms and as a matter of course present a very handsome appearance. They have nothing to do with handling freight, but are employed in keeping everything ship-shape on board. This departure from the old method makes it much more comfortable and convenient for the passengers, and especially the ladies, who now are not obliged to look upon some dirty, half-dressed deck hand while handling lines, pulling fenders and other routine duty, as not one of them are allowed on deck, the sailors taking care of this work.

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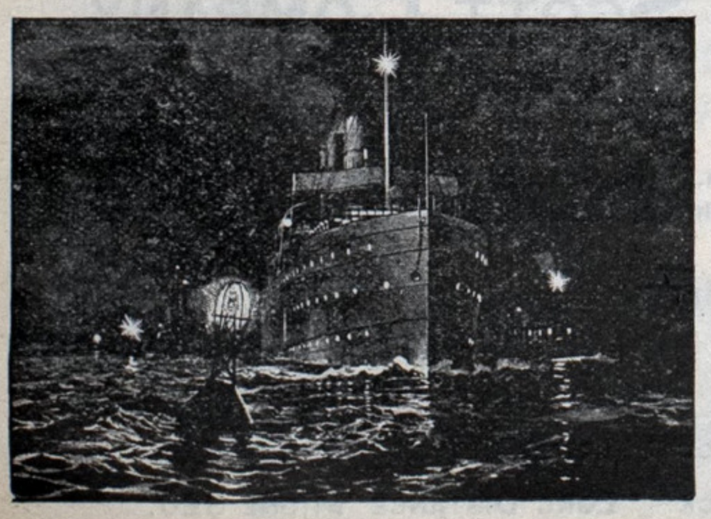

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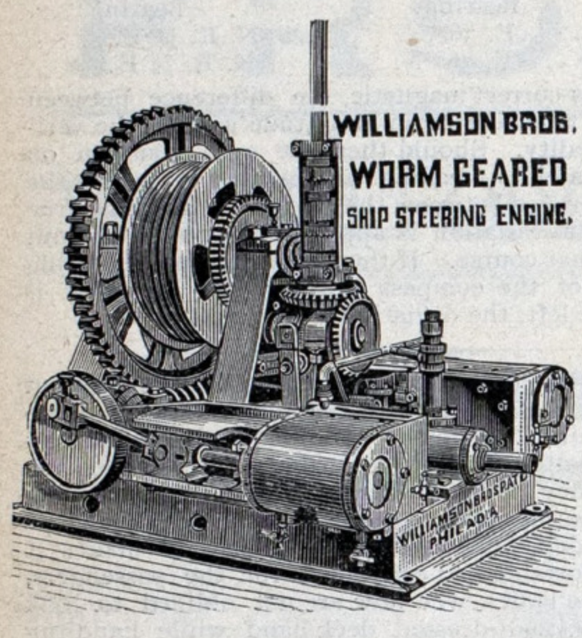

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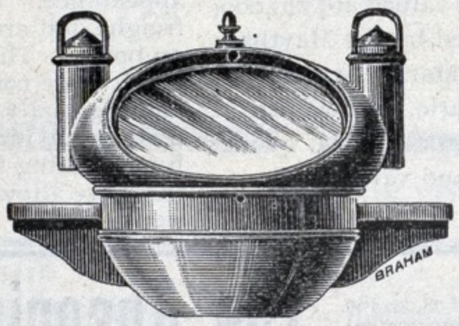

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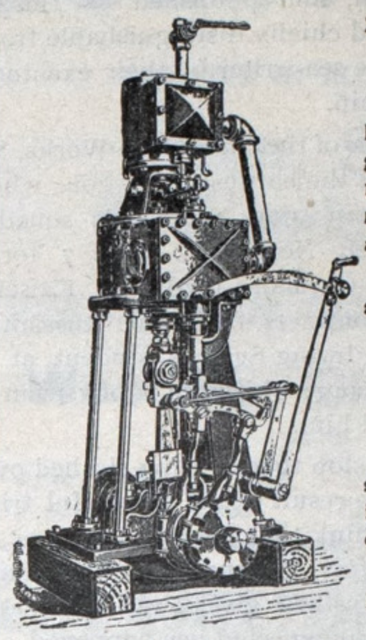

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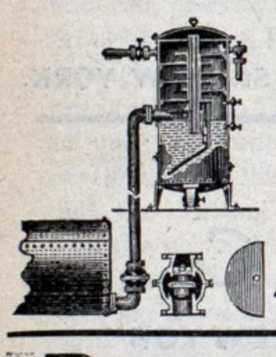

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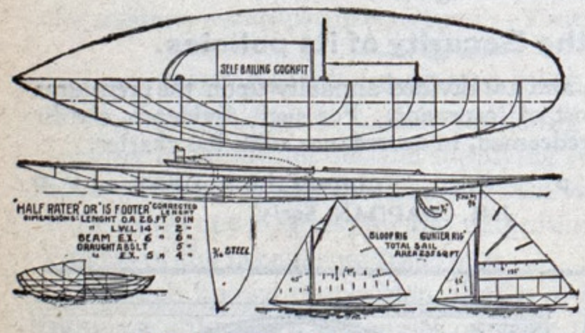

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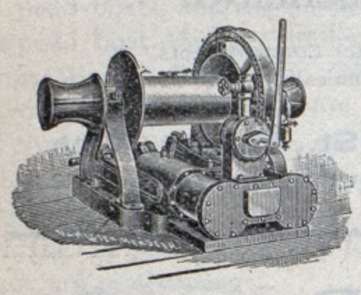

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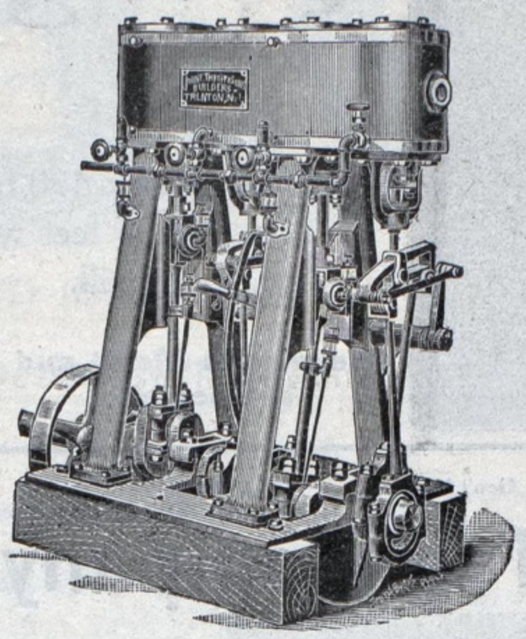

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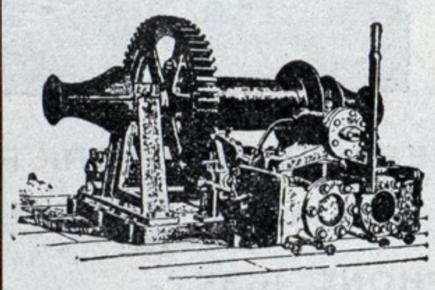

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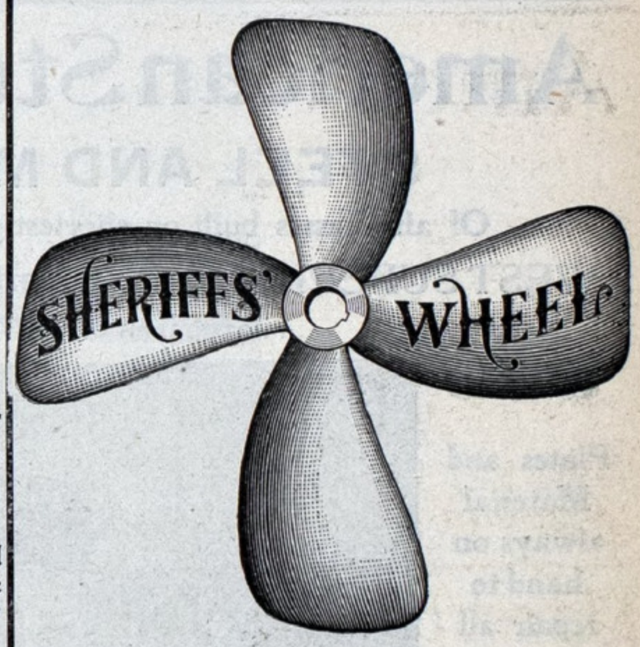

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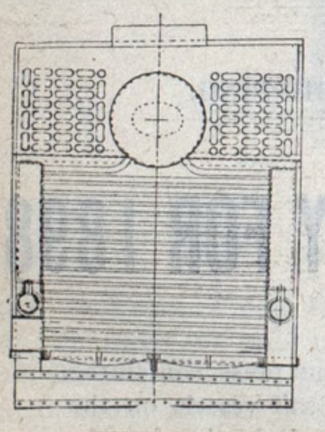

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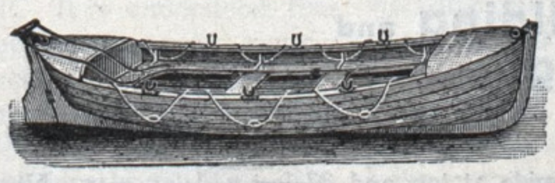

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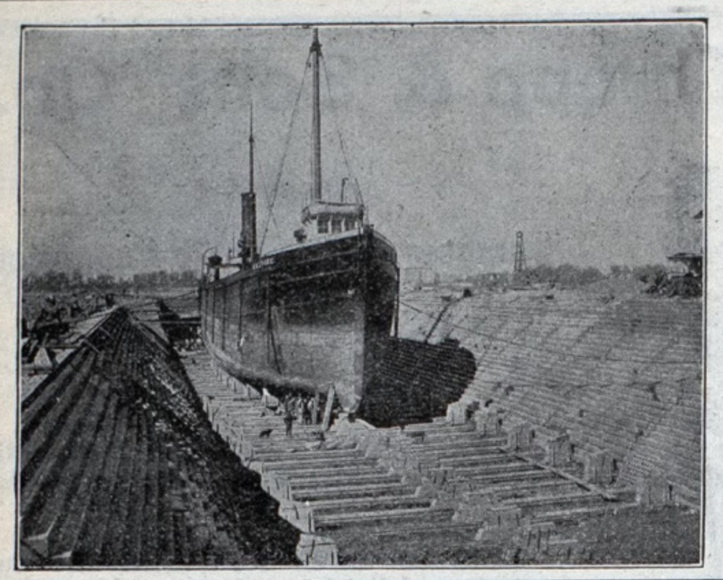

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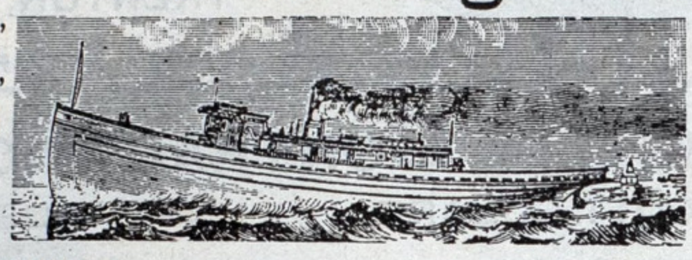

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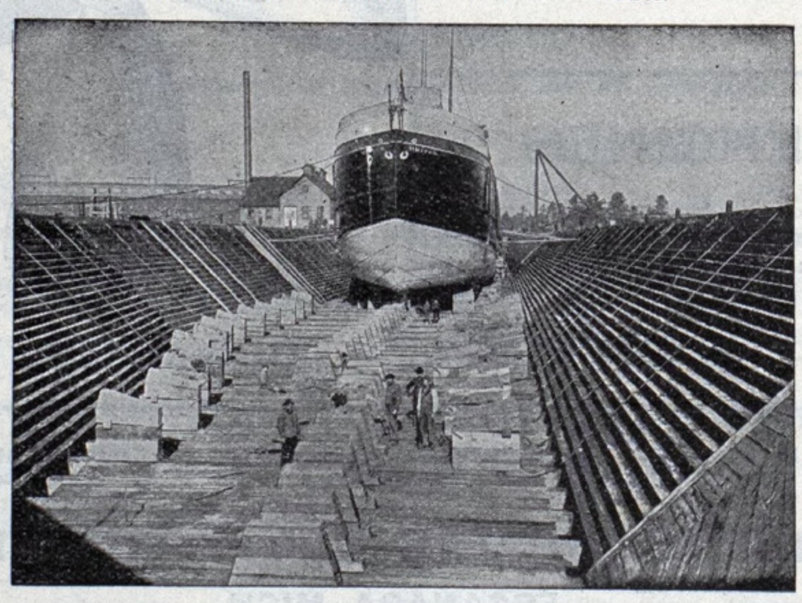

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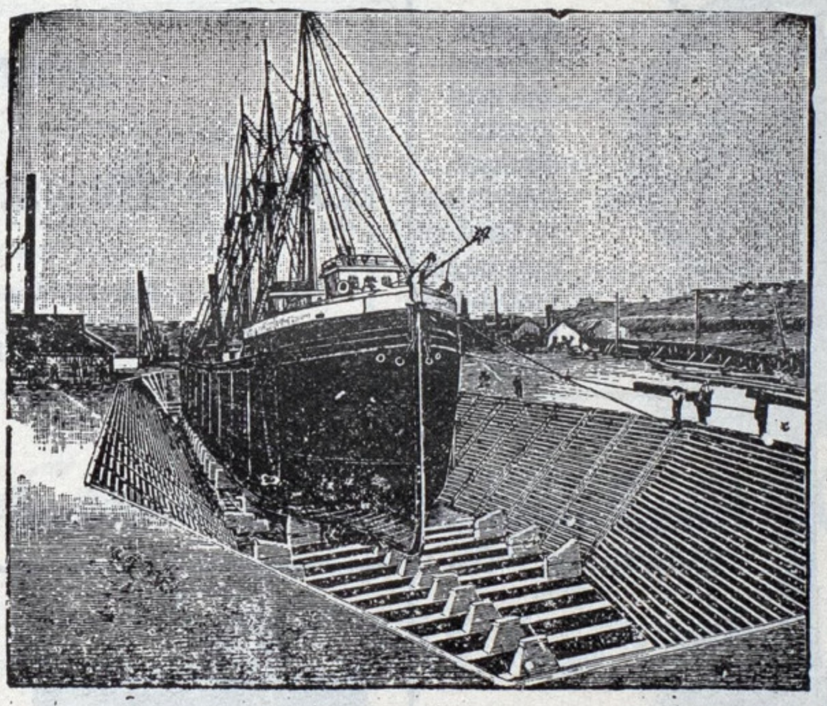

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